

## A RADICAL OPERATION FOR MALIGNANT NEOPLASM OF THE URINARY BLADDER.

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RADICAL operation for malignant disease means a complete removal of the primary carcinoma, together with all the infected lymphatics and glands. The prognosis for lasting cure depends entirely upon the thoroughness with which the excision is done. In all the operations that are performed for malignant neoplasm of the urinary bladder, no attention is given to the thorough removal of the internal iliac lymphatics and glands. These procedures can consequently not be considered as radical, nor as holding out any hope for permanent cure of the disease.

The writer begs to propose the following operation as being a radical one for removing malignant growths of the bladder, together with the glands and lymphatics; it is especially applicable to new growths involving the posterior wall and bas-fond of this viscus.

The ureters are both catheterized before the anæsthesia is commenced.

The abdomen and genitals are thoroughly shaved and cleansed the day before the operation.

Under full anæsthesia, a three-inch incision is made in the median line of the abdomen, from just above the symphysis pubis upward. The patient is at once put into the Trendelenburg position, and the small intestines carefully packed away and the general peritoneal cavity protected by large, warm, moist compresses. Over these compresses a second layer of dried gauze pads is placed. The small pelvis is thus freely exposed.

The peritoneum of the pelvic floor is now divided straight across,—in the female at its reflection from the posterior vesical surface on to the cervix uteri, and in the male at the anterior aspect of Douglas's cul-de-sac. The peritoneum is then bluntly raised up from the pelvic floor to the level of the bifurcation of the common iliac artery, where the ureter, with its contained catheter, is easily identified lying adherent to the peritoneum. The ureter can be at once traced downward to the bladder, and its position carefully noted. The glands and lymphatics along the internal iliac artery, together with the surrounding loose cellular tissue, are dissected out on either side down to the bladder-wall. This step in the operation may be attended with considerable venous hæmorrhage, especially near the bladder. The hæmorrhage is easily controlled by packing; if the dissection has been bluntly carried out, the bleeding will never be very copious. The important structures that are encountered are the ureters, previously identified, the internal iliac artery and vein, which are easily recognized and avoided, the uterine artery in the female, crossing the ureter at upper level of the cervix; the seminal vesicals and vas in the male.

The prostatic plexus of veins in the male lie below and behind the field of operation, and should not be encountered unless the prostate is involved in the malignant disease.

Should the ureter be involved in the cancerous growth, it should be dissected out along with the glands and lymphatics, and preparations made for its resection and subsequent implantation into the bladder. It is to be especially noted in dissection of the ureter that it is not to be too closely stripped from its cellular bed; for its blood supply is derived from this cellular tissue, and, if it is stripped too closely, it may necrose.

The infiltrated glands and lymphatics being removed, the cellular space of the pelvic floor is loosely tamponed with gauze. This checks oozing and prevents infection. The peritoneal packings are carefully inspected and arranged to prevent soiling of the peritoneum.

The bladder is now opened in healthy tissue, just above the upper limit of the neoplasm. The cavity of the bladder

is at once dried out with *sponges*, and the surface of the neoplasm thoroughly cauterized with pure carbolic acid or the actual cautery.

The neoplasm is now widely excised; if the lower end of the ureter is diseased, it should be removed. Hæmorrhage of the bladder-wall is easily controlled by pressure forceps or ligature.

If the ureter has been partly excised, its proximal end should be now implanted into the summit of the bladder, either intraperitoneally or extraperitoneally. It is best not to implant the ureter into the line of the excised area, for the union at the meeting-point of the suture lines is apt to be imperfect, and leakages occur.

The defect of the bladder-wall is now repaired by two rows of sutures,—catgut for the mucosa, and silk, passed Cushing mattress fashion, for the muscularis.

Drainage of the entire pelvic floor by gauze. In the female the gauze is conducted out through the vagina, in the male through a counterperineal incision, between the rectum and the prostate.

The pelvic peritoneum is completely closed over the gauze drainage. Closure of the abdominal wound without drainage.

The advantages of this operation may be summed up as follows:

It affords the freest access of any to carcinoma of the posterior wall and base of the bladder.

It is the only method by which the indurated lymphatics and glands along the internal iliac artery can be removed.

It permits us to remove the ureter when diseased, and to at once reimplant it into the bladder or into the opposite ureter.

It allows of accurate suture of the defect created in the bladder-wall.

It permits of excellent drainage below.

The objections that may be raised to it are that we expose the patient to graver risks of infection than by the extraperitoneal method of resection. This cannot be denied; but, as it is impossible to remove the glands and lymphatics by the extra-

peritoneal method, we must either give up all attempts at radical cure of vesical carcinomata or resort to the intraperitoneal method as outlined above.

The danger of infection can be reduced to a minimum. The bladder is not opened until the glands and lymphatics and cancerous tissue in the pelvic floor have been dissected free; the cellular tissue is then covered by iodoform gauze. As soon as the bladder is opened, it is sponged dry and the surface of the neoplasm at once thoroughly seared with the actual cautery or pure carbolic acid.

Very little blood is lost during the operation. As there is no exposure nor handling of the intestines, there is no shock, even though the operation is a lengthy one. In the author's two cases, the patients suffered no shock, although the operation lasted three hours and two and one-half hours respectively.

The writer recognizes that the dissection in the pelvic floor is not an easy one. But if at the very beginning of the operation the pelvic peritoneum is bluntly peeled up to the level of the common iliac bifurcation, and the ureter there identified and traced downward, the dissection is much simpler and can be more quickly done. The introduction of the ureteral catheters simplifies the identification of the ureters.

The writer feels that the possibility of effecting a lasting cure justified the proposal of this operation. Either we must remove the glands and lymphatics together with the neoplasm, or else give up the hope of curing our patients.

In the past year the writer has had occasion to practise this operation in two patients.

In the first patient, a woman of thirty-two, the carcinoma of the bladder complicated an advanced carcinoma of the uterus, vagina, and both broad ligaments. Only the young age of the woman prompted the writer to attempt radical cure. Hysterectomy and complete excision of the internal iliac lymphatics and glands were first done. Then the left side of bas-fond, left posterior surface, and left ureteral orifice of the bladder were removed. Immediate implantation of the left ureter into the summit of the bladder, without tension. The bladder defect was

closed by two rows of sutures. Drainage of entire pelvic floor through vagina; complete closure of pelvic peritoneum and of abdomen. Uninterrupted convalescence; eight months later recurrence in the pelvis. The patient had gained twenty-five pounds; she lost five pounds in the last two months.

The second patient was likewise a woman. Extensive carcinoma of right posterior wall and right side of base and right ureteral orifice, complicated by bleeding uterine fibroids. Preliminary hysterectomy; removal of internal iliac glands and lymphatics was easily accomplished. When bladder was opened, the carcinoma was found to extend into the urethra. Wide excision would have necessitated removal of posterior one-third of urethra, with consequent incontinence. The exposure was excellent. Excision would have been very easy. In view of the extensive involvement of the disease, with the possibility of establishing incontinence of urine if excision was done, the writer was led to abandon his original purpose of doing a radical excision. The entire carcinoma mass was therefore destroyed with the actual cautery. Permanent catheter in bladder. Closure of opening into the bladder by a double row of sutures. Drainage per vaginam. Closure of pelvic peritoneum and abdominal wound without drainage. Uninterrupted convalescence.

The writer was at this second operation impressed with the excellent exposure, and the easy access afforded to the glands, lymphatics, and posterior wall and base of the bladder.